



Sedimentation



Essential Question: *What happens to the sediment the water carries when the river enters the reservoir?*

Overview

In addition to water, rivers and streams also carry soil, sand, silt, leaves, and other solids as they flow. This additional material is called sediment. The amount of sediment a stream carries depends on the type of soil in the streambed, the land cover around the stream, and other factors. The amount and type of sediment can change at different times of the year. Building a dam can not only block water flow, it can also block the sediment that normally flows down the river. In this lab, you will observe what happens to sediment when it is blocked by a dam.

Materials

For each group of four students:

stream table with landscape materials
loose pieces of clay, formed into rectangles as in Lesson 1: *Types and Uses*
1/2 cup sand
1-L beaker
irrigation kit
bucket for collecting discharge water
paper towels
plastic spoon

Safety

Follow standard safety rules and school safety rules for laboratory activities.

Procedure

1. Set up your stream table according to your teacher's instructions.
2. Pick a random place near the start of the river and place a spoonful of dry sand there. (This represents the sediment and other materials that are often carried in a river. As the river moves, it picks up dirt, rocks, leaves, etc. from the banks and carries it downstream. Additional sediment is brought into the river by its tributaries.) Turn the water flow to medium and watch where the water carries the sand for 2 to 3 minutes.
3. Pick a location for a dam downstream of the sand.
4. Turn off the water. Clean the sand out of the stream table. Make a rectangle of clay 2 cm × 3 cm × 0.5 cm. Dry the area around the dam site and use a clay rectangle to build a dam. Do not forget to use a toothpick to make the outlet works and spillway.